



# WASTE REDUCTION RECOMMENDATIONS FOR **Squadron Line Elementary**



May 19, 2023

**Report prepared for:**

Meg Evens  
Squadron Line Elementary  
44 Squadron Line Road Simsbury CT

**Report prepared by:**

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Resources within this document were developed by the Center for EcoTechnology (CET). CET is currently under contract with the Connecticut Department of Energy and Environmental Protection (CT DEEP) to help businesses and institutions reduce waste. Some materials below were created under contract to the Massachusetts Department of Environmental Protection (MassDEP) as part of MassDEP's RecyclingWorks in Massachusetts program. Although these documents reference the state of Massachusetts, they are public documents and contain valuable information relevant to this report.

## SITE VISIT SUMMARY

CET staff conducted a site assessment at Squadron Line Elementary and met with Meg Evens and various members of the Simsbury Sustainability Committee. The purpose of the site visit was to provide insight and feedback to improve their existing recycling program and explore options for food waste collection, including best practices for source separation and educational material.

### SNAPSHOT

<b>School</b>	Squadron Line Elementary
<b>Contact</b>	Meg Evens
<b>Number of Staff</b>	175
<b>Number of Students</b>	679 K-6 <sup>th</sup> & 106 pre-k
<b>Facility</b>	
<b>Location</b>	44 Squadron Line Road Simsbury CT
<b>Layout</b>	Two cafeterias with multiple lunch waves and breakfast which is consumed in classrooms
<b>Waste System</b>	
<b>Hauler</b>	Paine's Inc.
<b>Bins</b>	One 10-yard Trash and Two 10-yard recycling dumpsters
<b>Reason for Visit</b>	To provide insight and feedback to improve their existing recycling program and explore options for food waste collection, including best practices for source separation and educational material.

## OBSERVATIONS

### Areas where Squadron Line Elementary Demonstrates Strong Practices

1. Established single-stream recycling program.
2. Implemented different bin color and clear liners for recycling and trash receptacles.
3. Strong community engagement i.e., students were able to initiate switch to paper lunch trays away from foam lunch trays.

### Opportunities for Improvement

1. Establish a share table program to donate excess unwanted food to a food rescue.
2. Establish a program to source separate food scraps for collection.
3. Strengthen current recycling program to maximize its effectiveness and reduce recycling stream contamination.
4. Incorporate new programs into staff training/student education and clearly label all waste/recycling receptacles.

The following images highlight elements of the current waste handling system, as noted during the waste assessment.



**Kitchen Prep Area** Prep scraps could be collected here.



**Trash Dumpster** Single 10yd dumpster close to building



**Recycling Dumpster** Two 10yd single stream recycling could use additional signage/labeling!



**Interior Recycling Dumpster** Bifold door and other non recyclable materials observed in dumpster.



**Collection Bins** Bins used by custodial staff to collect trash and recyclable materials.



**Dishwashing Area** Area where reusable trays used to be washed could be ideal spot to empty liquid collection pail from sorting station.

## FOOD WASTE GENERATION ESTIMATE

Based on the Wasted Food Solutions [Food Waste Estimator](#), your weekly generation is estimated to be 958 pounds (see table below) or approximately .48 tons. Actual food waste generation rates can vary widely from one school to another.

Metric	Quantity	Food Waste Estimate
45% waste of disposed weight <i>Assumption: 250 lbs./yd dumpster</i>	1 10-yd dumpster/week	1125 lbs./week
# of Students [Elementary School] 1.13 lbs./student/week	~700 students	791 lbs./week
<b>AVERAGE ESTIMATED GENERATION</b>		<b>958 Pounds per week</b>

## RECOMMENDATIONS

### SOURCE REDUCTION

Source reduction is the act of preventing food waste before it occurs and is the top priority to reduce wasted food. Preventing food waste can have a beneficial impact on the environment and save money for the school as well. The elementary school's kitchen director Marsha already has measures in place to help prevent wasted food as there is a fixed kitchen budget. Below are the steps that can be taken to better understand Squadron Line Elementary's current food waste and food waste prevention strategies.

#### Conduct a waste audit.

A waste audit or waste assessment is used to understand the materials and volumes produced at your school over a given time. CET recommends conducting a waste audit at a minimum of two days in the same week. Results can be analyzed for opportunities to reduce waste. Engage students with a lunch survey and collect information to better assist in meal planning to further reduce food waste in the cafeteria.

Below are resources to help inform and guide schools through the waste audit process.

[NERC Waste Assessment and Waste Audits](#)

[EPA Food Waste Audit](#)



## Share Table

Share tables are a designated place (table, desk, bus pan, etc.) where students may return whole food or beverage items they choose not to eat. These items are then available to other students or staff who may want additional servings or may want to take the items home. To learn more about share tables and food safety regulations review [The Use of Share Tables in Connecticut Child Nutrition Programs](#) document.

The school expressed concern with share tables due to safety concerns over food allergies. CET recognizes this concern and encourages the school to continue to prioritize safety.

- The school could use the share table to collect surplus food strictly for donation to a food rescue.
- Squadron line Elementary could also use this sample [SOP](#) to create a procedure more in line with the food safety practices currently in place.
- CET can provide best practices, tips, and signage for setting up a share table upon request.

## What foods can be shared?

The Connecticut Department of Education requires that school food authorities (SFAs) comply with all health and food safety codes when donating food via share tables. They released a [memorandum](#) in 2017 stating that these codes require schools to limit their use of share tables to foods that do not require temperature control. Refer to the table below for a more comprehensive list of foods that may and may not be donated.



Connecticut Requirements for Foods and Beverages on Share Tables in  
Child Nutrition Programs (CNP's)  
**Complying with Connecticut Public Health Code 19-13-B42**

Allowed	Not Allowed
<ul style="list-style-type: none"> <li>• Whole pieces of fruit with a peel that is removed by the consumer before eating, e.g., bananas and oranges.</li> </ul>	<ul style="list-style-type: none"> <li>• Whole pieces of fruit without a peel, e.g., apples, peaches, grapes and plums</li> </ul>
<ul style="list-style-type: none"> <li>• Commercially packaged unopened intact fruits and vegetables, such as cans and plastic-type containers where the consumer pulls the lid or covering off, e.g., individual containers of fruit cup, peaches, and applesauce.</li> </ul>	<ul style="list-style-type: none"> <li>• Fruits and vegetables that have been prepared and packaged by the CNP's food service staff, e.g., apples wrapped in plastic, and canned fruit portioned into plastic cups with lids.</li> </ul>
<ul style="list-style-type: none"> <li>• Bags of commercially packaged pre-cut fruits and vegetables, such as bags of baby carrots or sliced apples, except for commercially packaged cut melons, cut tomatoes, or cut leafy greens.</li> </ul>	<ul style="list-style-type: none"> <li>• Bags of fruits and vegetables packaged by the CNP's food service staff, e.g., bags of baby carrots or sliced apples.</li> <li>• Commercially packaged cut melons, cut tomatoes, or cut leafy greens.</li> </ul>
<ul style="list-style-type: none"> <li>• Commercially packaged unopened intact grain items such as crackers, croutons, and cookies.</li> </ul>	<ul style="list-style-type: none"> <li>• Grain items packaged by the CNP's food service staff, e.g., rolls wrapped in plastic or cookies in plastic bags.</li> </ul>
<ul style="list-style-type: none"> <li>• Bags of commercially packaged nuts and seeds, such as peanuts, sunflower seeds, or trail mix.</li> </ul>	<ul style="list-style-type: none"> <li>• Nuts and seeds packaged by the CNP's food service staff in bags or plastic cups with lids, e.g., peanuts, sunflower seeds, and trail mix.</li> </ul>
<ul style="list-style-type: none"> <li>• Commercially packaged unopened intact condiments such as portion control packages of ketchup, mustard, mayonnaise, relish, and salad dressing.</li> </ul>	<ul style="list-style-type: none"> <li>• Condiments packaged by the CNP's food service staff, such as ketchup, mustard, mayonnaise, relish, and salad dressing packaged into plastic cups with lids.</li> </ul>
<ul style="list-style-type: none"> <li>• Air-cooled hard-boiled egg with shell intact.</li> </ul>	<ul style="list-style-type: none"> <li>• Meat/meat alternate items, such as poultry (e.g., chicken and turkey), meat, cheese, fish, eggs (including water-cooled hard-boiled egg with shell intact).</li> </ul>
<ul style="list-style-type: none"> <li>• Unopened shelf-stable aseptically packaged juice Note: Shelf-stable aseptically packaged juice does not require refrigeration until after opening.</li> </ul>	<ul style="list-style-type: none"> <li>• Opened shelf-stable aseptically packaged juice</li> <li>• Opened or unopened frozen or refrigerated juice that is not shelf stable aseptically packaged</li> </ul>
	<ul style="list-style-type: none"> <li>• Unopened or opened containers of milk</li> </ul>

CET recommends the school also partner with a local food pantry or food rescue organization to donate surplus food and beverages. The receiving agency can likely accept a wider variety of foods than the share table, which can include packaged items from the cafeteria and unserved prepared foods.

## FOOD RESCUE

### Food Donation

Food donation offers an opportunity to redistribute surplus food for individuals facing food insecurity. CET recommends establishing a partnership with a food rescue organization that can redirect excess, edible, unserved food on a regular or as needed basis.

- [Food Donation Guidance](#) from CET’s Waste Food Solutions toolbox includes best practices for labeling, storing, and transporting donated food, as well as for establishing partnerships with receiving organizations. This guidance was developed in collaboration with health officials, food rescue organizations, food banks, and organizations with established food donation programs.
- Legal fact sheets from the Harvard Food Law and Policy Clinic on [liability protections](#), [date labeling](#), and [tax incentives](#) for food donation in Connecticut may provide additional information. Food donors are protected under the Bill Emerson Good Samaritan Food Donation Act.

In general, entities that are already in the business of preparing and serving food for public consumption are already practicing the measures necessary to easily adopt safe food donation.

### Food Rescue Organizations

Provider	Contact Info
<a href="#">Food Rescue US - Hartford</a>	James Mary <a href="mailto:james@foodrescue.us">james@foodrescue.us</a> 860-202-6274
<a href="#">MEANS Database</a>	202-449-1507

*Please note, this list was compiled by CET for contact purposes, and listing does not imply a recommendation or endorsement.*

## FOOD SCRAP DIVERSION

There were various areas where food scraps could be collected, including where food is prepped in the kitchen and at the trash stations in the cafeteria. Any foods that Squadron Line Elementary cannot serve to students or donate to local food rescue organizations can be collected and sent to a commercial composter, animal feed operation, or anaerobic digester.

Squadron Line Elementary should ask their current hauler Paine’s Inc if they offer food scrap pickup. If they cannot provide service, other organics haulers are shown in the table below. CET can connect you with the haulers listed below and can review any proposals or service agreements. It is important to communicate with a prospective hauler about where your materials are being processed and what materials they can accept in order to create signage and educate students and staff. CET [Hauler Contracting Guidance](#) may help you prepare for conversations with haulers.

Based on the estimated food waste generation above the school could start with **four** 32-gallon carts picked up **once per week**. However, work with your organic hauler to right size your service.

## Organics Haulers

Provider	Notes	Contact Info
<a href="#">Blue Earth Compost</a>	No bear-proof bins. Recommended storing bins in a shed or gated area.	Sam King 413-824-6504 sam@blueearthcompost.com
<a href="#">Agri-cycle</a>		1-800-850-9560

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### Implementing Source Separation Back-of-house food waste separation

Food waste diversion in commercial kitchens is successful when it's quick and easy for chefs and other kitchen staff. Here are some tips for establishing a smooth system:

- **Food prep stations** should each be equipped with a designated food scrap container, such as the one pictured on the right. These will be used for all trimmings and scraps and emptied into a larger container when full.
  - Depending on space availability, a cart could be centrally located in the preparation for consolidating from the smaller containers.
- **Grouped bins.** Anywhere there is a centrally located food waste bin, there should ideally be one for trash and for recycling.
  - One of the easiest ways to ensure compliance with source separation is to ensure that all bins are equally convenient to access, and that they are clearly labeled with what can and cannot be placed in the bin.
  - Single-stream recycling bins will be used for paper, cardboard, glass, plastic bottles and containers, and metal cans generated in the kitchen.
- **Good Housekeeping**
  - Food scraps should be removed from kitchens/dish rooms at the same frequency as trash.
  - To help keep the cart cleaner contact your hauler to learn more about their practices for using liners.
  - Be sure to clean up spills of food scraps inside or outside as soon as possible.



Clean plastic container commonly used for food scrap collection in commercial kitchens. These countertop bins can easily be washed by hand or in the dishwasher.



## Cafeteria Sorting Station

Set up a sorting station in the school cafeteria during mealtimes. Below is a [graphic created by RecycleSmart](#). This is a great example of how a sorting station can be set up.

# Cafeteria Sorting Station

**1 Food Share\***

**Why Here?**  
Drop off heaviest items first to prevent spills

**Best Practices:**

- Clean bins maintain food safety & appeal
- Only items from the school meal program
- Keep like items together

**2 Liquids**

**Why Here?**  
Pour liquids as they are not allowed in the recycle bin

**Best Practices:**

- Don't empty juice containers as they take longer to empty
- Raise the bucket with a crate to prevent spills

**3 Recycle Bin**

**Why Here?**  
Milk cartons are captured immediately after liquids

**Best Practices:**

- Material(s) should be as empty and dry as possible

**4 Landfill Bin**

**Why Here?**  
Capture contaminants before the compost bin

**Best Practices:**

- Capture [andfill] items at student tables throughout lunch
- Squishy, flimsy plastic goes in the [andfill] bin

**5 Compost Bin**

**Why Here?**  
Capture compostables before stacking trays

**Best Practices:**

- Tap trays against the inside of the bin to release stuck on food
- No plastic wrapped food allowed

**6 Stack Trays**

**Why Here?**  
Neatly stack trays to save space in the compost bin

**Best Practices:**

- Stage a small stack of trays to model nesting
- Stack trays like a puzzle and push down on the stack of trays

**General Tips & Best Practices:**

- Clear signage above the opening of the bins prompts proper sorting behavior
- Keep space for students to access the sorting station on both sides
- Placement of sorting station should flow with tray stacking ending nearest the exit
- Wipe down the sorting station every day

\*If Smart Cafeteria Initiative approved district, follow StopWaste's Food Share Table Guide

Version 1.2





### Housekeeping tips and tricks to ensure a clean and successful sorting station

- Identify a food waste champion to oversee the program and answer any programmatic questions.
- Work with the custodian to develop set up/break down and maintain sorting station.
- Sorting station should be monitored to reduce or correct contamination of misplaced items. This monitoring can be done by student teams, volunteers, or staff.
- Ensure each bin is clearly labeled with texts and pictures for students to easily match the items they have to the pictures and text on the bins.
- Use a 5-gallon bucket to collect surplus liquid. The bucket can get heavy, and this is a manageable size to carry to the dishwashing room for dumping and rinsing. Place a strainer or colander on top of the bucket to capture straws and throw those into the trash. Eliminating liquid waste from the trash keeps the trash cleaner, lighter, and helps avoid messy cleanups.
- Keep space on both sides of the sorting station for students to form lines on both sides.
- Wipe down the sorting station daily and rinse all bins at least once per week. You may use compostable liners for food scrap collection containers if your hauler accepts them.
- Reduce contamination by educating students on the new program. Involve students in making signage and training materials. Older students can be “Lunch Leaders” and help the younger students sort their tray waste as they move through the station. Older students can also wear gloves and use tongs (as seen below) to pick out contamination in each stream.



## COMMUNICATION WITH STUDENTS AND STAFF

Squadron Line Elementary School should begin immediately sharing information with the student body and faculty regarding what is and is not recyclable at the school. Review the process of where recyclables are collected, how facilities staff collect them, and where the material goes when it leaves the school (A Materials Recycling Facility)!

Below are some additional strategies for communicating the recycling and other waste diversion initiatives are the school:

- The school should appoint a member of their staff to be the trainer and be responsible for getting information out to other faculty.
- When programs are rolled out, especially at lunch time, monitors should stand at each sorting station during each lunch period to help ensure students are placing items in the correct bin. These monitors could be members of the school's current lunchtime monitors, PTA volunteers, Green Club, or student volunteers. Monitoring should continue for at least the first few weeks of the program and can be re-introduced if there is a problem with contamination. Having monitors stand near the sorting stations increases participation and reduces contamination.

- The school may want to expand upon the training associated with recycling and food waste diversion programs as part of classroom curriculum, but at a minimum, students must be shown exactly how to separate waste so only acceptable materials end up in the bins.
- Share the Why's of recycling correctly and diverting or reducing food waste: It's good for the environment and saves the school money.
- There are several strategies that can be used to educate students, including school-wide assemblies, classroom presentations, student made videos, and presentations or announcements during lunches.
  - Identify "lead" classrooms that can help with outreach and education around diversion including educating students in the lunchroom.
  - Introduce the school's waste hauler at an assembly (for recycling and food waste collection).

Consider launching programs at the beginning of a semester or immediately following a break. Repeat training and monitoring at the beginning of each semester to remind students about which materials to place in each container, and to train new students.

## Curriculum & Program Integration

Squadron Line Elementary School may consider expanding or adapting its program to include interactive and educational food waste reduction activities into the curriculum. Additions to the curriculum can support sustainability initiatives and engage students in new wasted food solutions, such as composting. Below are resources related to preventing and diverting food scraps that the school may consider integrating into programming:

- CET administers MassDEP's [The Green Team](#), an interactive educational program that empowers students and teachers to implement waste reduction, recycling, composting, energy conservation and pollution prevention. The Green Team offers [lesson plans](#) for teachers which may be used or adapted for campers and camp leaders:
  - [Slash Trash](#) – Reducing, Reusing, and Recycling Our Way to Zero Waste
  - [Composting](#) - Learn how soil organisms recycle organic waste by composting.
- The Central Vermont Solid Waste Management District republished "[Do the Rot Thing A Teacher's Guide to Compost Activities](#)" which includes hands-on activities & projects

# SINGLE STREAM RECYCLING PROGRAM RESOURCES

Single stream recycling includes cardboard, paper, plastic, glass, and metal containers. These materials are included on the [CT DEEP's list of mandatory recycling materials](#), and therefore cannot be placed in the trash. See the screenshot from [RecycleCT](#) below for materials included in mixed recycling.

## Recycling Resources

- You can share [RecycleCT](#) with staff. This resource includes a downloadable [Recycling Guide](#) featuring the standard recycling materials that are accepted by all Material Recovery Facilities in Connecticut. Included on the homepage of the website is a RecycleCT Wizard which enables users to search hundreds of items to learn how to properly manage them.
- Other educational resources can be [found here on the RecycleCT website](#).

## Recycling Tips & Info

- While recycling can be collected in bags, plastic bags cannot be included in mixed recycling.
- Maximizing this program by flattening the cardboard to reduce air space in the dumpster.
- Black plastic containers should not be placed in mixed recycling bins due to technological limitations at Material Recovery Facilities.
- As materials are diverted, there may be an opportunity to reduce the size of the trash container or have it serviced less frequently.

## RECYCLE RIGHT. EVERY TIME.

Use this guide to learn **What's IN** and **What's OUT** of your bin.

### What's IN?

Follow these steps before placing acceptable items into your recycling bin.

**DO:** empty, clean, rinse, and repeat for each item. | **DON'T:** shred, box, or bag items.



**PAPER & CARDBOARD**

Newspapers & magazines, food and beverage cartons, mixed paper and flattened boxes



**GLASS**

Bottles and jars



**METAL**



Food and beverage cans, aluminum foil and foil containers



**PLASTIC**



Jugs, tubs and lids

### Always Empty Recyclables out of Plastic Bags

Bags tangle recycling equipment causing delays, injuries and extra costs.



Pair trash and recycling bins whenever possible. Use color-coded plastic bags as liners to keep bins clean and make it easier to move materials.



Leave recycling bags untied or loosely tied so they are easy to empty.



Color-coded plastic bags make it easier to visually differentiate so that trash doesn't get confused with recycling in one cart.



Always empty recyclables out of the plastic bag into the dumpster.



Reuse or dispose of the plastic bag in the trash.



You may want to conduct a bin inventory utilizing this [excel spreadsheet](#) to ensure bins and signs are present throughout the facility. Trash and recycling receptacles can be co-located to make recycling as convenient as discarding items in the trash. Signs that describe what to and what not to include in this recycling collection, as well as color coding bins will provide a quick, easy way to identify the type of bin. Recycling bins are typically blue and should be clearly labeled, while trash bins could be gray, for example.

## EMPLOYEE TRAINING & WASTE BIN SIGNAGE

Waste bin signage, staff training, and knowing the end site specifications are fundamental to help staff understand what is acceptable in each material stream.

Staff members in the department can be trained on the collection, transportation, and storage of trash, recycling, and food waste throughout the facility. This may be completed in a variety of ways— shift leaders, managers, or a designated trainer can take staff on a “walk through” of the facility to identify where recycling bins, food scrap, and trash bins are located. Trainers can verbally explain what is acceptable in each stream. Include program details in literature provided to all new hires and provide refresher trainings regularly.

Signs can be placed at eye level above containers or on the containers. CET can customize signage specific to your needs, including language translations.

SINGLE STREAM RECYCLING  
RECICLAJE DE FLUJO ÚNICO

**Do not bag recyclables!**

**EMPTY BOTTLES & CONTAINERS**  
Plastic, metal, glass  
Clean aluminum foil

**PAPER**

**NO**  
Liquids, food soiled materials  
Plastic bags, utensils, straws  
Chip bags, hot coffee cups  
Tissues, napkins

**¡No embolsar productos reciclables!**

**CONTENEDORES Y BOTELLAS VACÍOS**  
Plástico, metal, cristal  
Papel de aluminio limpio

**PAPEL**

**NO**  
Líquidos, materiales manchados por alimentos  
Bolsas de plástico, utensilios, sorbetos  
Bolsas de papitas, taza de café caliente  
Pañuelos de papel, servilletas

CENTER FOR ECOTECHNOLOGY

TRASH  
BASURA

**When in doubt, throw it out!**  
It's better than contaminating the recycling bin.

Plastic bags, cling wrap, gloves  
Lids, utensils, straws  
Liquids, food-soiled materials  
Hot coffee cups, Styrofoam™  
Chip bags and candy wrappers  
Tissues

**NO**  
Cardboard, paper  
Empty bottles and cans

**¡Cuando hay dudas, deséchelo!**  
Es mejor que contaminación el reciclaje.

Bolsas de plástico, plástico adherente, guantes  
Las tapas, utensilios, sorbetos  
Líquidos, materiales manchados por alimentos  
Taza de café caliente, Styrofoam™  
Bolsas de papitas y envoltorios de caramelos  
Pañuelos de papel

**NO**  
Cartón, papel de oficina  
Botellas y latas vacías

CENTER FOR ECOTECHNOLOGY

## Food Scraps

### ALL FOOD SCRAPS

Fruit & vegetable peels  
Dairy, eggs, grains, bread  
Meat, fish, poultry  
Bones, shells



### NO

Tissues, napkins, paper towels  
Compostableware  
Coffee cups, wrappers  
Plastic, metal, glass



## Single Stream

### EMPTY BOTTLES & CONTAINERS

Plastic, metal, glass  
Clean aluminum foil



### PAPER & FLAT CARDBOARD

### NO

Liquids, food soiled materials  
Plastic bags, utensils, straws  
Chip bags, hot coffee cups  
Tissues, napkins



Do not bag recyclables!



## Trash

### When in doubt, throw it out!

It's better than contaminating the recycling bin.

Plastic bags, cling wrap, gloves  
Lids, utensils, straws  
Liquids, food soiled materials  
Hot coffee cups, Styrofoam™  
Chip bags and candy wrappers  
Tissues



### NO

Compostableware  
Cardboard, paper  
Empty bottles and cans



## QUESTIONS?

CET is committed to work with Squadron Line Elementary on your waste management efforts and we're here to support you any way that we can. CET is currently under contract with [Connecticut Department of Energy and Environmental Protection](https://www.ct.gov/dep) to help businesses and institutions reduce waste. If you have a question or if we can provide further assistance, please do not hesitate to contact us:

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